



Duplicate Copy of IDS filed 10/05/2004

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| | | | |
|---|---|-------------------------------|-----------------|
| Substitute for form 1449A/PTO | | Complete if Known | |
| | | Application Number | 10/509998 |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) | | Filing Date | June 14, 2002 |
| | | First Named Inventor | Kia Silverbrook |
| | | Art Unit | |
| | | Examiner Name | |
| | | Attorney Docket Number | YU183US NP |
| Sheet | 1 | of | 8 |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|---------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No. 1 | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number - Kind Code ² (if known) | | | |
| | | US-4423401 A* | Dec 27 1983 | Mueller | |
| | | US-4553393 A* | Nov 19 1985 | Ruoff | |
| | | US-4672398 A* | Jun 9 1987 | Kuwabara et al | |
| | | US-4737802 A* | Apr 12 1988 | Mielke | |
| | | US-4864824 A* | Sep 12 1989 | Gabriel et al | |
| | | US-5029805 A* | Jul 9 1991 | Albarda et al | |
| | | US-5258774 A* | Nov 2 1993 | Rogers, Robert L | |
| | | US-5666141 A* | Sep 9 1997 | Matoba et al | |
| | | US-5719604 A* | Feb 17 1998 | Inui et al | |
| | | US-2002/024569 A1* | Feb 28 2002 | Silverbrook, Kia | |
| | | US-5742305 A* | Apr 22 1998 | Hackleman, David E | |
| | | US-6334664 B1* | Jan 1 2002 | Silverbrook, Kia | |
| | | US-04001051 A* | Jan 6 1992 | Komai | |
| | | US-5675719* | Oct 7 1997 | Mallas et al | |
| | | US-6130967* | Oct 2000 | Lee et al | |
| | | US-6229622 B1* | May 2001 | Takada | |
| | | US- | | | |
| | | US- | | | |
| | | US- | | | |
| | | US- | | | |

| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|---------------|---|--------------------------------|--|---|----------------|
| Examiner Initials* | Cite No. 1 | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
| | | Country Code ³ - Number ⁴ - Kind Code ⁵ (if known) | | | | |
| | | JP 01-105746 A* | Apr 24 1989 | Ricoh Co Ltd | | |
| | | JP 01-115639 A* | May 8 1989 | Ricoh Co Ltd | | |
| | | JP 01-128839 A* | May 22 1989 | Ricoh Co Ltd | | |
| | | JP 01-257059 A* | Oct 13 1989 | Seiko Epson Corp | | |
| | | JP 01-306284 A* | Dec 11 1989 | Seiko Epson Corp | | |
| | | JP 02-050841 A* | Feb 20 1990 | Seiko Epson Corp | | |
| | | JP 02-188348 A* | Jun 18 1990 | Minolta Co Ltd | | |
| | | JP 02-162049 A* | Jun 21 1990 | Seiko Epson Corp | | |
| | | JP 03-065348 A* | Mar 20 1991 | Matsushita Elec Ind Co | | |
| | | JP 03-112662 A* | May 14 1991 | Seiko Epson Corp | | |

| | |
|-------------------------------|----------------------------|
| Examiner Signature | Date Considered |
|-------------------------------|----------------------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 904.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| | | | | | |
|---|---|----|---|-------------------------------|-----------------|
| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | Complete if Known | |
| | | | | Application Number | 10/509998 |
| | | | | Filing Date | June 14, 2002 |
| | | | | First Named Inventor | Kia Silverbrook |
| | | | | Art Unit | |
| | | | | Examiner Name | |
| | | | | Attorney Docket Number | YU183US NP |
| Sheet | 2 | of | 8 | | |

[illegible]

| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|---------------|--|--------------------------------|--|---|----|
| Examiner Initials* | Cite No. 1 | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T6 |
| | | Country Code 3 - Number 4 - Kind Code 5 (if known) | | | | |
| | | JP 03-180350 A* | Aug 6 1991 | Seiko Epson Corp | | |
| | | JP 04-118241 A* | Apr 20 1992 | Seiko Epson Corp | | |
| | | JP 04-126255 A* | Apr 27 1992 | Seiko Epson Corp | | |
| | | JP 04-141429 A* | May 14 1992 | Seiko Epson Corp | | |
| | | JP 04-368851 A* | Dec 21 1992 | Seiko Epson Corp | | |
| | | JP 05-284765 A* | Oct 29 1993 | Canon Inc | | |
| | | JP 05-378724 A* | Dec 3 1993 | Seikosha Co Ltd | | |
| | | JP 07-314665 A* | Dec 5 1995 | Canon Inc | | |
| | | JP 58-112747 A* | Jul 5 1983 | Fujitsu KK | | |
| | | JP 58-116165 A* | Jul 11 1983 | Canon Inc | | |

| | |
|-----------------------|--------------------|
| Examiner Signature | Date Considered |
|-----------------------|--------------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov. 3 MPEP 907.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

(use as many sheets as necessary)

Sheet 3 of 8

| | |
|-------------------------------|-----------------|
| Application Number | 10/509998 |
| Filing Date | June 14, 2002 |
| First Named Inventor | Kia Silverbrook |
| Art Unit | |
| Examiner Name | |
| Attorney Docket Number | YU183US NP |

[illegible]

| Examiner Initials ² | Cite No. ¹ | Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T |
|--------------------------------|-----------------------|--|--------------------------------|--|---|---|
| | | JP 61-025849 A* | Feb 4 1986 | Canon Inc | | |
| | | JP 61-268453 A* | Nov 27 1986 | Olympus Optical Co Ltd | | |
| | | JP 02-092643 A* | Apr 3 1990 | Seiko Epson Corp | | |
| | | JP 02-108544 A* | Apr 20 1990 | Seiko Epson Corp | | |
| | | JP 02-265762 A* | Oct 30 1990 | Matsushita Elec Ind Co | | |
| | | JP 04-353458 A* | Dec 8 1992 | Brother Ind Ltd | | |
| | | JP 06-081865 A* | Apr 5 1994 | Seikosha Co Ltd | | |
| | | JP 06-091866 A* | Apr 5 1994 | Seikosha Co Ltd | | |
| | | JP 09-314915 A* | Dec 9 1997 | Canon Inc | | |
| | | JP 2000-293335 A* | Oct 20 2000 | Seiko Epson Corp | | |

Date
Considered

1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 909.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| | | | | | |
|---|---|----|---|---|--|
| Substitute for form 1449A/PTO | | | | <div>Complete if Known</div> <div>Application Number 10/509998</div> <div>Filing Date June 14, 2002</div> <div>First Named Inventor Kia Silverbrook</div> <div>Art Unit</div> <div>Examiner Name</div> <div>Attorney Docket Number YU183US NP</div> | |
| <div>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</div> <div>(use as many sheets as necessary)</div> | | | | | |
| Sheet | 4 | of | 8 | | |

[illegible]

| FOREIGN PATENT DOCUMENTS | | | | | |
|--------------------------|------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No. 1 | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Country Code 3 - Number 4 - Kind Code 5 (if known) | | | |
| | | GB 1428239 A* | Mar 17 1976 | Cibie Projecteurs | |
| | | GB 2262152 A* | Jun 9 1993 | Willett Int Ltd | |
| | | GB 792145 A* | Mar 19 1958 | Technograph Printed Circuits | 42 L |
| | | FR 2231076 A* | Dec 20 1974 | Electricite De France | |
| | | EP 0092228 A* | Oct 26 1983 | Siemens AG | |
| | | EP 0398031 A* | Nov 22 1990 | Seiko Epson Corp | |
| | | EP 0427291 A* | May 15 1991 | Seiko Epson Corp | |
| | | EP 0431338 A* | Jun 12 1991 | Matsushita Elec Ind Co Ltd | |
| | | EP 0478956 A* | Apr 8 1992 | Kernforschungsz Karlsruhe | |
| | | EP 0506232 A* | Sep 30 1992 | Videojet Systems Int Inc | |

| | |
|-----------------------|--------------------|
| Examiner Signature | Date Considered |
|-----------------------|--------------------|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov. 3 MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

| | | | | | |
|---|--|-----------------|--|--------------------------|--|
| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | Complete if Known | |
| Application Number | | 10/509998 | | | |
| Filing Date | | June 14, 2002 | | | |
| First Named Inventor | | Kia Silverbrook | | | |
| Art Unit | | | | | |
| Examiner Name | | | | | |
| Attorney Docket Number | | YU183US NP | | | |

[illegible]

| FOREIGN PATENT DOCUMENTS | | | | | |
|--------------------------|-----------------------|---|--------------------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Country Code ³ - Number ⁴ - Kind Code ⁵ (if known) | | | |
| | | EP 0510648 A* | Oct 28 1992 | Ivri Yehuda | |
| | | EP 0627314 A* | Dec 7 1994 | Olivetti Canon Ind SPA | |
| | | EP 0634273 A2* | Jan 18 1995 | Sharp KK | |
| | | EP 0737580 A* | Oct 16 1996 | Canon KK | |
| | | EP 0750997 A* | Jan 2 1997 | Canon KK | |
| | | EP 0882590 A* | Dec 9 1998 | Canon KK | |
| | | EP 0713774 A2* | May 29 1996 | Sharp KK | |
| | | EP 1157844 A1* | Nov 28 2001 | Sony Corp | |
| | | EP 0540338 B* | Jan 28 1998 | Canon KK | |
| | | EP 0899684 A* | Mar 3 1999 | Seiko Epson Corp | |

| | | | |
|-----------------------|--|--------------------|--|
| Examiner Signature | | Date Considered | |
|-----------------------|--|--------------------|--|

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1. Applicant's name and not considered. Include copy of this form with next communication to applicant.

2. Applicant's unique citation designation number (optional). 3. See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 4. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 5. For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 6. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 7. Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /AD./

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

~~(use as many sheets as necessary)~~

Sheet ~~7~~ of 8

Complete if Known

Application Number

Filing Date

| | |
|-----------------------------|------------------------|
| First Named Inventor | Kia Silverbrook |
|-----------------------------|------------------------|

Art Unit

Examiner Name

Attorney Docket Number | YU183US NP

[illegible][illegible]

Examiner
Signature

Date Considered

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 904.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./

PTO/SB/08B (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

7

of

8

Complete if Known

| | |
|------------------------|-----------------|
| Application Number | 10/509998 |
| Filing Date | June 14, 2006 |
| First Named Inventor | Kia Silverbrook |
| Group Art Unit | |
| Examiner Name | |
| Attorney Docket Number | YU183US NP |

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

| Examiner Initials ¹ | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|-----------------------------------|--------------------------|--|----------------|
| | | NOWOROLSKI, J. MARK et al, "Process for in-plane and out-of-plane single-crystal-silicon thermal microactuators". Sensors and Actuators, A, CH, Elsevier Sequoia S.A., Lausanne, Vol 55, no. 1, 15 July 1996, pp 65-69, XP004077979 ISSN: 0924-4247.* | |
| | | ATAKA, MANABU et al, "Fabrication and Operation of Polyimide Bimorph Actuators for Ciliary Motion System". Journal of Microelectromechanical Systems, US, IEEE Inc. New York, Vol. 2, no. 4, 1 December 1993, pp 146-150, XP000443412, ISSN: 1057-7157.* | |
| | | YAMAGATA, YUTAKA et al, "A Micro Mobile Mechanism Using Thermal Expansion and its Theoretical Analysis". Proceedeings of the workshop on micro electro mechanical systems (MEMS), US, New York, IEEE, Vol. Workshop 7, 25 January 1994, pp 142-147, XP000528408, ISBN: 0-7803-1834-X.* | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Examiner
Signature

Date

Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /A.D./